A method of revitalizing hair growth which comprises:

The method of carboxylate is a compound of the formula:

claim 1 wherein the pyrrolidine

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wherein

R is selected from the group consisting of a C_1 - C_9 straight branched chain alkyl or alkenyl group optionally substituted with C_3 - C_4 cyclelkyl, C_5 or C_5 cyclealkyl, C_5 - C_7 cycloalkenyl, Ar, where said alkyl, alkenyl, cycloalkyl or cycloalkenyl groups may be optionally substituted with C1-C4 alkyl, C_1 - C_4 alkenyl, or hydroxy, where Ar_1 is selected from the group consisting of 1-haphthyl, 2-naphthyl, 2-indolyl, 3-indolyl, 2-furyl, 3-furyl, 2-thiazolyl, 2-thienyl, 3thienyl, 2-pyridyl, 3-pyridyl, 4-pyridyl, and phenyl, having one to three substituents which are independently selected from the group consisting of hydrogen, halo, hydroxyl, nitro, trifluordmethyl, C^1 - C_6 straight or branched alkyl or alkenyl, C_1 - C_4 alkoxy or C_1 - C_4 alkenyloxy, phenoxy, benzyloxy, and amin ϕ :

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where R_2 is hydrogen or C^1 - C_6 alkyl; and

is selected from the group consisting of C_2 - C_5 straight or branched chain alkyl or alkenyl,

wherein the alkyl chain is substituted in one or more positions with Ar_1 as defined above, C_3 - C_6 cycloalkyl, cycloalkyl connected by a C_1 - C_6 straight or unbranched alkyl or alkenyl chain, and Ar_2 is selected from the group consisting of 2-indolyl, 3-indolyl, 2-furyl, 3 furyl, 2-thiazolyl, 2-thienyl, 3-thienyl, 2-pyridyl, 3-pyridyl, 4-pyridyl, and phenyl, having one to three substituents which are independently selected from the group consisting of hydrogen, halo, hydroxyl, nitro, trifluoromethyl, C_1 - C_6 straight or branched alkyl or alkenyl, C_1 - C_6 alkenyloxy, phenoxy, benzyloxy, and amino; Z may also be the fragment:

wherein

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 R_3 is a C_1 - C_9 straight or branched alkyl $\#_1$ - C_8 optionally substituted with C_3 - C_9 cycloalkyl, or Ar_1 as defined above, and unsubstituted Ar_1 ;

 X_2 is 0 or NR_5 , where R_5 is selected from the group consisting of hydrogen, $C_1\text{-}C_6$ straight or branched alkyl and alkeryl;

X2 -

-R4

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R₄ is selected from the group consisting of phenyl, benzyl, C_1 - C_5 straight or branched alkyl or alkenyl, and C_1 - C_5 straight or branched alkyl or alkenyl substituted with phenyl; or pharmaceutically acceptable salts or hydrates thereof.

3 The method of claim 1 wherein the pyrrolidine carboxylate is a compound of the formula:

wherein

R,

is a C_1 - C_9 straight ϕ r branched chain alkyl or alkenyl group optionally substituted with C_3 - C_8 cycloalkyl, C_3 or C_s cycloalkyl, $C_s \mid C_s$ cycloalkenyl, or Ar_1 , where said alkyl, alkenyl, /cyc/oalkyl or cygloalkenyl groups may be optionally (substituted with C_1-C_4 alkyl, C_1-C_4 alkenyl, or hydroxy, and where Ar, is selected from the group consisting of 1-naphthyl, 2-naphthyl, 2-indolyl, 3-indolyl, 2-furyl, 3-furyl, 2-thiazolyl, 2-thienyl, 3-thienyl, 2-pyridýl, 3-pyridyl, 4-pyridyl, or phenyl, having one to | three substituents which independently selected from the group consisting of hydrogen, halo, hydroxyl, nitro, trifluoromethyl, C_1 - C_5 straight or branched alkyl or alkenyl, C_1 - C_4 alkoxy or C_1 - C_4 alkenyloxy, phenoxy, benzyloxy, and amino;

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Z

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is a C_2-C_5 straight or branched chain alkyl or alkenyl, wherein the alkyl chain is substituted in one or more positions with Ar_1 as defined above, C_1-C_5 cycloalkyl, cycloalkyl connected by a C_1-C_5 straight or unbranched alkyl or alkenyl chain, or Ar_2 where Ar_2 is selected from the group consisting of 2-indolyl, 3-indolyl, 2-furyl, 3-furyl, 2-thiazolyl, 2-thienyl, 3-thienyl, 2-pyridyl, 3-pyridyl, 4-pyridyl, or phenyl, having one to three substituents which are independently selected from the group consisting of hydrogen, halo, hydroxyl, nitro trifluoromethyl, C_1-C_5 straight or branched alkyl or alkenyl, C_1-C_4 alkoxy or C_1-C_4 alkenyloxy, phenoxy, benzyloxy, and amino; or pharmaceutically acceptable salts or hydrates thereof.
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4. The method of claim 1 wherein the pyrrolidine carboxylate compound is selected from the group consisting of:

3-phenyl-1-propyl (2S)/1/(3,3-d/methyl-1,2-dioxopentyl)-2-pyrrolidinecarboxylate,

3-phenyl-1-prop-2-(E)-enyl (2S)-1-(3,3,-dimethyl-1,2-dioxopentyl)-2-pyrrolidinecarboxylate,

3-(3,4,5-trimethoxyphenyl) 1 propyl (2S)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-pyrrolidinecarboxylate,

3-(3,4,5-trimethoxyphenyl) -1-prop-2-(E)-enyl (2S)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-pyrrolidinecarboxylate,

3-(4,5-methylenedioxyphenyl)-1-propyl(2S)-1-(3,3,dimethyl-1,2-dioxopentyl)-2-pyrrolidinecarboxylate,

3-(4,5-methylenedioxyphenyl)-1-prop-2-(E)-enyl (2S)-1-(3,3-dimethyl-1,2-dioxopentyl) 2-pyrrolidinecarboxylate,

```
3-cyclohexyl-1-propyl (2S)-1-(3, $\frac{1}{2}$-dimethyl-1,2-dioxopentyl)-2-
       pyrrolidinecarboxylate,
        3-cyclohexyl-1-prop-2-(E)-enyl
                                            (2S)-1-(3,3-dimethyl-1,2-
       dioxopentyl) - 2 - pyrrolidinecarboxylate,
  5
        (1R)-1,3-diphenyl-1-propyl
                                           (2S)-1-(3,3-dimethyl-1,2-
       dioxopentyl) - 2 - pyrrolidinecarboxylate,
        3-phenyl-1-propyl
                              (2S)-1-(1,2-dioxo-2-[2-furanyl])ethyl-2-
       pyrrolidinecarboxylate,
        3-phenyl-1-propyl
                               (2S)-1-(h,2-dioxo-2-[2-thienyl]) entyl-2-
10
       pyrrolidinecarboxylate,
        3-phenyl-1-propyl (2S)-1-(1,2-dioxo-2-[2-thiazolyl])ethyl-2-
pyrrolidinecarboxylate,
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        3-phenyl-1-propyl
Total Man
                                 (2S)/-1-(1,2-dioxo-2,phenyl)ethyl-2-
       pyrrolidinecarboxylate,
LI.
        3-(2,5-dimethoxypheny)-1-dropyl
                                               (2S)-1-(3,3-dimethyl-1,2-
dioxopentyl) - 2 - pyrro /idinecarboxylate,
        3-(2,5-dimethoxyphenyl)-1/prop-2-(E)-enyl(2S)-1-(3,3-dimethyl-
u
       1,2-dioxopentyl)-2-pyrrolidinecarboxylate,
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        2-(3,4,5-trimethoxyphenyl)-1-ethyl
                                             (2S)-1-(3,3-dimethyl-1,2-
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       dioxopentyl) - 2 - pyrrolidinecarboxylate,
        3-(3-Pyridyl)-1-propyl(2S)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-
       pyrrolidinecarboxylate,
        3-(2-Pyridyl)-1-propyl(2$)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-
       pyrrolidinecarboxylate,
        3-(4-Pyridyl)-1-propyl(2|s)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-
25
       pyrrolidinecarboxylate,
        3-phenyl-1-propyl
                             (1/2) - 1 - (2 - cyclohexyl - 1, 2 - dioxoethyl) - 2 - (1/2)
       pyrrolidinecarboxylate,
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3-phenyl-1-propyl
                            (2S)-1-(2-tert-butyl-1,2-dioxoethyl)-2-
      pyrrolidinecarboxylate,
        3-phenyl-1-propyl (2S)-1-(2-cydlohexylethyl-1,2-dioxoethyl)-2-
      pyrrolidinecarboxylate,
 5
        3-(3-Pyridyl)-1-propyl
                                     (2S)-1-(2-cyclohexylethyl-1,2-
      dioxoethyl) - 2 - pyrrolidinecarbo xylate,
        3-(3-Pyridyl)-1-propyl (2S)-1 (2-tert-butyl-1,2-dioxoethyl)-2-
      pyrrolidinecarboxylate,
        3,3-diphenyl-1-propyl (2S)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-
10
      pyrrolidinecarboxylate,
       3-(3-Pyridyl)-1-propyl (2S)-1-(2-cyclohexyl-1,2-dioxoethyl)-2-
      pyrrolidinecarboxylate,
        3-(3-Pyridyl)-1-propyl
                                      (2S)-N-([2-thienyl]glyoxyl)
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n
      pyrrolidinecarboxylate,
N
       3,3-Diphenyl-1-propyl
                               (2/S) 1-(3,3-dimethyl-1,2-dioxobutyl)-2-
ų į
      pyrrolidinecarboxylate,
        3,3-Diphenyl-1-propyl
                                      (2S)-1, cyclohexylglyoxyl-2-
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### ### ###
      pyrrolidinecarboxylate,
       3,3-Diphenyl-1-propyl/
                                      (ZS)-1-(2-thienyl)glyoxyl-2-
6.3
      pyrrolidinecarboxylate, and pharmaceutically acceptable salts,
12.0
      hydrates, and mixtures thereof.
                A method of promoting hair germination which comprises:
      administering
                     to
                        an animal
                                     an effective amount
                                                                   non-
      immunosuppressive pyrrol/idine carboxylate compound.
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6. The method of claim 5 wherein the pyrrolidine rboxylate is a compound of the formula:

wherein.

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 R_1 is selected from the group consisting of a C_1 - C_5 straight or branched chain alkyl or alkenyl group optionally substituted with C_1 - C_3 cycloalkyl, C_3 or C_5 cycloalkyl, C_5 - C_7 cycloalkenyl, Ar_1 , where said alkyl, alkenyl, cycloalkyl or cycloalkenyl groups may be optionally substituted with C_1 - C_4 alkyl, C_1 - C_4 alkenyl, or hydroxy, where Ar_1 is selected from the group consisting of 1 naphthyl, 2-naphthyl, 2-indolyl, 3-indolyl, 2-furyl, 3-furyl, 2-thiazolyl, 2-thianyl, 3-thianyl, 2-,3-,4-pyridyl and phenyl, having one to three substituents which are independently selected from the group consisting of hydrogen, halo, hydroxyl, nitro, trifluoromethyl, C_1 - C_4 alkoxy or C_1 - C_4 alkenyloxy, phenoxy, benzyloxy, and amino:

X is selected from the group consisting of oxygen, sulfur, methylene (CH_2) or H_2 ;

- Y is selected from the group consisting of oxygen or NR_2 , where R_2 is hydrogen or C^1 - C_6 alkyl; and
- Z is selected from the group consisting of C_2 - C_6 straight

or branched chain alkyl or alkenyl,

wherein the alkyl chain is substituted in one or more positions with Ar_1 as defined above, C_1 - C_6 cycloalkyl, cycloalkyl connected by a C_1 - C_6 straight or unbranched alkyl or alkenyl chain, and Ar_2 is selected from the group consisting of 2-indolyl 3-indolyl, 2-furyl, 3-furyl, 2-thiazolyl, 2-thienyl, 3-thienyl, 2-pyridyl, 3-pyridyl, 4-pyridyl, and phenyl, having one to three substituents which are independently selected from the group consisting of hydrogen, halo, hydroxyl, nitro, trifluoromethyl, C_1 - C_6 straight or branched alkyl or alkenyl, C_1 - C_4 alkenyloxy, phenoxy, benzyloxy, and amino: Z_1 - Z_2 alkenyloxy, phenoxy, benzyloxy, and amino: Z_2

may also be the fragment:

—CH——X2—R4

wherein

 R_3 is a C_1 - C_9 straight or branched alkyl $\#_1$ - C_8 optionally substituted with C_3 - C_9 cycloalkyl, or Ar_1 as defined above, and unsubstituted Ar_1 ;

is 0 or NR_5 , where R_5 is selected from the group consisting of hydrogen, C_1 - C_6 straight or branched alkyl and alkenyl,

is selected from the group consisting of phenyl, benzyl, C_1 - C_5 straight or branched alkyl or alkenyl, and C_1 - C_5 straight or branched alkyl or alkenyl substituted with phenyl; or pharmaceutically acceptable salts or hydrates thereof.

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7. The method of claim 5 wherein the pyrrolidine carboxylate is a compound of the formula:

wherein

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is a C1-C, straight or branched chain alkyl or alkenyl group optionally substituted with C_3 - C_9 cycloalkyl, C_3 or C_s cycloalkyl, C_s - C_7 cycloalkenyl, or Ar_1 , where said alkyl, alkenyl, cycloalkyl or cycloalkenyl groups may be optionally subst/ituted with C_1-C_4 alkyl, C_1-C_4 alkenyl, or hydroxy, and where Arl is selected from the group consisting of 1/-naphthyl, 2-naphthyl, 2-indolyl, 3-indolyl, 2-furyl, 3-furyl, 2-thiazolyl, 2-thienyl, 3-thienyl, 2-pyridy $\frac{1}{4}$, 3-pyridyl, 4-pyridyl, or phenyl, having three substituents which are one to independently selected from the group consisting of hydrogen, halo, hydroxyl, nitro, trifluoromethyl, C_1 - C_6 straight or branched alkyl or alkenyl, C1-C4 alkoxy or C₁-C₄ alkenyloxy, phenoxy, benzyloxy, and amino;

is a C_2 - C_6 straight or branched chain alkyl or alkenyl, wherein the alkyl chain is substituted in one or more positions with Ar_1 as defined above, C_3 - C_8 cycloalkyl, cycloalkyl connected by a C_1 - C_6 straight or unbranched alkyl or alkenyl chain, (or Ar_2 where Ar_2 is selected

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from the group consisting of 2-indoly1, 3-indoly1, 2-
            furyl, 3-furyl, 2-thiaz\sqrt{1}yl, 2-thienyl, 3-thienyl, 2-
            pyridyl, 3-pyridyl, 4-pyridyl, or phenyl, having one
            to three substituents which are independently selected
            from the group consist ing of hydrogen, halo, hydroxyl,
            nitro trifluoromethyl\int C_1 - C_6 straight or branched alkyl
            or alkenyl, C_1-C_4 alk\phixy or C_1-C_4 alkenyloxy, phenoxy,
            benzyloxy, and amino; or pharmaceutically acceptable
            salts or hydrates thereof.
                method of claim 5 wherein the pyrrolidine
 carboxylate is selected from the group consisting of:
  3-phenyl-1-propyl (2S)-1 \neq (3,3-dimethyl-1,2-dioxopentyl)-2-
 pyrrolidinecarboxylate,
  3-phenyl-1-prop-2-(E)-enyl (2S)-1-(3,3,-dimethyl-1,2-
dioxopentyl)-2-pyrrolidinecarboxylate,
  3-(3,4,5-trimethoxyphenyl)-|1-propyl (2S)-1-(3,3-dimethyl-1,2-
dioxopentyl) -2-pyrrolidinecarboxylate,
  3-(3,4,5-trimethoxyphenyl) -1-prop-2-(E)-enyl (2S)-1-(3,3-
dimethyl-1,2-dioxopentyl)-2 pyrrolidinecarboxylate,
  3-(4,5-methylenedioxypheny|1)-1-propyl(2S)-1-(3,3,dimethyl-1,2-1)
dioxopentyl) - 2 - pyrrolidinec arboxylate,
  3 - (4, 5 - methylenedioxyphenyl) - 1 - prop - 2 - (E) - enyl (2S) - 1 - (3, 3 - methylenedioxyphenyl) - 1 - prop - 2 - (E) - enyl (2S) - 1 - (3, 3 - methylenedioxyphenyl)
dimethyl-1,2-dioxopentyl)-2-pyrrolidinecarboxylate,
 3-cyclohexyl-1-propyl (2S\sqrt{-1}-(3,3-dimethyl-1,2-dioxopentyl)-2-
pyrrolidinecarboxylate,
 3-cyclohexyl-1-prop-2-(£)-enyl (2S)-1-(3,3-dimethyl-1,2-
dioxopentyl) - 2 - pyrrolidinecarboxylate, ...
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(2S)-1-(3,3-dimethyl-1,2-

(1R)-1,3-diphenyl-1-∳ropyl

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dioxopentyl) - 2 - pyrrolidinecarboxylate,
                                3-phenyl-1-propyl
                                                                                                                     (2S)-1-(1,2-dioxo-2-[2-furanyl]) ethyl-2-
                           pyrrolidinecarboxylate,
                               3-phenyl-1-propyl (2S)-1-(1,2-dioxo-2-[2-thienyl])entyl-2-
      5
                          pyrrolidinecarboxylate,
                              3-phenyl-1-propyl (2S)-1-(1,2-dioxo-2-[2-thiazolyl])ethyl-2-
                          pyrrolidinecarboxylate,
                               3-phenyl-1-propyl
                                                                                                                           (2S) - 1 - (h, 2 - dioxo - 2, phenyl) ethyl - 2 -
                          pyrrolidinecarboxylate,
                              3-(2,5-dimethoxyphenyl)-1-propy (2S)-1-(3,3-dimethyl-1,2-
                          dioxopentyl)-2-pyrrolidinecarboxylate,
                             3-(2,5-dimethoxyphenyl)-1-prop  \{2-(E)-enyl(2S)-1-(3,3-dimethyl-1-prop)\}
  (]
(]
                          1,2-dioxopentyl)-2-pyrrolidinecarboxylate,
  2-(3,4,5-trimethoxyphenyl)-1-4thyl (2S)-1-(3,3-dimethyl-1,2-
                         dioxopentyl)-2-pyrrolidinecarb xylate,
   3 - (3 - Pyridyl) - 1 - propyl(2S) - 1 - (3, 3 - dimethyl - 1, 2 - dioxopentyl) - 2 - (3 - Pyridyl) - 1 - (3 - Pyridyl) 
   pyrrolidinecarboxylate,
                             3 - (2 - Pyridyl) - 1 - propyl(2S) - 1 - (3, 3 - dimethyl - 1, 2 - dioxopentyl) - 2 - (3 - dioxopentyl) - 3 - (3 - dioxopentyl) - (3
                        pyrrolidinecarboxylate,
                             3-(4-Pyridyl)-1-propyl(2S) -11-(3,3-dimethyl-1,2-dioxopentyl)-2-
20
                        pyrrolidinecarboxylate,
                                                                                                                 (2S)/-1-(2-cyclohexyl-1,2-dioxoethyl)-2-
                             3-phenyl-1-propyl
                        pyrrolidinecarboxylate,
                             3-phenyl-1-propyl (24)-1-(2-tert-butyl-1, 2-dioxoethyl)-2-
25
                       pyrrolidinecarboxylate,
                            3-phenyl-1-propyl (2S)-\frac{1}{4}-(2-cyclohexylethyl-1,2-dioxoethyl)-2-
                       pyrrolidinecarboxylate,
                          3-(3-Pyridyl)-1-prop∤1
                                                                                                                                                     (2S)-1-(2-cyclohexylethyl-1,2-
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dioxoethyl)-2-pyrrolidinecarb\phixylate,
       3-(3-Pyridyl)-1-propyl (2S)-/1-(2-tert-butyl-1,2-dioxoethyl)-2-
      pyrrolidinecarboxylate,
       3,3-diphenyl-1-propyl (2S)/1-(3,3-dimethyl-1,2-dioxopentyl)-2-
 5
      pyrrolidinecarboxylate,
       3-(3-\text{Pyridyl})-1-\text{propyl} (2/5)-1-(2-\text{cyclohexyl}-1,2-\text{dioxoethyl})-2-
      pýrrolidinecarboxylate,
        -(3-Pyridyl)-1-prop∤l
                                   (2S) -N-([2-threnyl]glyoxyl)
      pyrrolidinecarboxylate,
      3,3-Diphenyl-1-propyl (2S)-1-(3,3-dimethyl-1,2-dioxobutyl)-2-
10
     pyrrolidinecarboxylate,
       3,3-Diphenyl-1-propyl (2S)-1-cyclohexylglyoxyl-2-
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     pyrrolidinecarboxylate
       3,3-Diphenyl-1-prqpyl (2S)-1-(2-thienyl)glyoxyl-2-
pyrrolidinecarboxylate, and pharmaceutically acceptable salts,
     hydrates, or mixtures thereof.
               A method of preventing hair
                                             loss which comprises:
                            animal/an effective amount of
     immunosuppressive pyrrolidime carboxylate compound.
          10.
                    method of claim, 9 wherein
               The
                                                    the
        boxylate is a compound of the formula:
                                             I
     wherein
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 R_1 is selected from the group consisting of a C_1 - C_9 straight or branched chain alkyl or alkenyl group optionally substituted with C_3 - C_9 cycloalkyl, C_3 or C_9 cycloalkyl, C_9 - C_9 cycloalkenyl, Ar_1 , where said alkyl, alkenyl, cycloalkyl or cycloalkenyl groups may be optionally substituted with C_1 - C_4 alkyl, C_1 - C_4 alkenyl, or hydroxy, where Ar_1 is selected from the group consisting of 1-naphthyl, 2-naphthyl, 2-indolyl, 3-indolyl, 2-furyl, 3-furyl, 2-thiazolyl, 2-thianyl, 3-thianyl, 2-pyridyl, 3-pyridyl, 4-pyridyl, and phenyl, having one to three substituents which are independently selected from the group consisting of hydrogen, halo, hydroxyl, nitro, trifluoromethyl, C^1 - C_6 straight or branched alkyl or alkenyl, C_1 - C_4 alkoxy or C_1 - C_4 alkenyloxy, phenoxy, benzyloxy, and amino:

X is selected from the group consisting of oxygen, sulfur, methylene (CH_2) or H_2 ;

- Y is selected from the group consisting of oxygen or NR_2 , where R_2 is hydrogen or C^1 - C_6 alkyl; and
- is selected from the group consisting of C_2 - C_6 straight or branched chain alkyl or alkenyl,

wherein the alkyl chain is substituted in one or more positions with Ar_1 as defined above, C_3 - C_8 cycloalkyl, cycloalkyl connected by a C_1 - C_6 straight or unbranched alkyl or alkenyl chain, and Ar_2 is selected from the group consisting of 2-indolyl, 3-indolyl, 2-furyl 3-furyl, 2-thiazolyl, 2-thianyl, 3-thianyl, 2-pyridyl, 3-pyridyl, 4-pyridyl, and phenyl, having one to three substituents which are independently selected from the group consisting of hydrogen, halo, hydroxyl, nitro,

trifluoromethyl, C_1 - C_6 straight or branched alkyl or alkenyl, C_1 - C_4 alkoxy or C_1 - C_4 alkenyloxy, phenoxy, benzyloxy, and amino; Z may also be the fragment:

5 wherein

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 X_2

R₃ is a C₁-C₉ straight or branched alky $\#_1$ -C₈ optionally substituted with C₃-C₈ cycloalkyl, or Ar₁ as defined above and unsubstituted Ar₁;

is O or NR_5 , where R_5 is selected from the group consisting of hydrogen, C_1 - C_6 straight or branched alkyl and alkenyl;

is selected from the group consisting of phenyl, benzyl, C_1 - C_5 straight or branched alkyl or alkenyl, and C_1 - C_5 straight or branched alkyl or alkenyl substituted with phenyl; or pharmaceutically acceptable salts or hydrates thereof.

11. The method of claim 9 wherein the pyrrolidine carboxylate is a compound of the formula:

20 wherein

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is a C_1 - C_9 straight or branched chain alkyl or alkenyl group optionally substituted /with C_3 - C_9 cycloalkyl, C_3 or C_5 cycloalkyl, C_5 - C_7 cycloa $\rlap/$ kenyl, or Ar_1 , where said alkyl, alkenyl, cycloalkyl dr cycloalkenyl groups may be optionally substituted/ with C_1-C_4 alkyl, C_1-C_4 alkenyl, or hydroxy, and where Ar, is selected from the group consisting of 1-napht/hyl, 2-naphthyl, 2-indolyl, 3-indolyl, 2-furyl, 3-fur ψ l, 2-thiazolyl, 2-thienyl, 3-thienyl, 2-pyridyl, 3-p∳ridyl, 4-pyridyl, or phenyl, having three one ťο substituents which hydrogen, halo, hydroxyl \int , nitro, trifluoromethyl, C_1 - C_6 straight or branched alkyl or alkenyl, C_1 - C_4 alkoxy or C_1-C_4 alkenyloxy, phenoxy, benzyloxy, and amino; is a C_2 - C_6 straight or pranched chain alkyl or alkenyl, wherein the atkyl chain is substituted in one or more positions with Ar_1 as defined above, C_3 - C_8 cycloalkyl, cycloalkyl connected by a C_1 - C_6 straight or unbranched alkyl or alkenyl chain, or Ar_2 where Ar_2 is selected from the group consisting of 2-indolyl, 3-indolyl, 2furyl, 3-furyl, 2-thiazolyl, 2-thienyl, 3-thienyl, 2pyridyl, 3-pyridyl, 4-pyridyl, or phenyl, having one to three substituents which are independently selected from the group consisting of hydrogen, halo, hydroxyl, nitro trifluoromethyl, C_1 - C_6 straight or branched alkyl or alkenyl, C_1 - C_1 alkoxy or C_1 - C_4 alkenyloxy, phenoxy, benzyloxy, and amino; or pharmaceutically acceptable salts or hydrates thereof.

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carboxylate is selected from the group consisting of:
      3-phenyl-1-propyl (2S)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-
     pyrrolidinecarboxylate,
5
       3-phenyl-1-prop-2-(E)-enyl
                                       (2S)-1-(3,3,-dimethyl-1,2-
     dioxopentyl) - 2 - pyrrolidinecarboxylate,
      3-(3,4,5-trimethoxyphenyl)-1-propyl (2S)-1-(3,3-dimethyl-1,2-
     dioxopentyl)-2-pyrrolidinecarboxylate,
     3-(3,4,5-trimethoxyphenyl)-1-prop-2-(E)-enyl
10
     dimethyl-1,2-dioxopentyl)-2-pyrrolidinecarboxylate,
      3-(4,5-methylenedioxyphenyl)-1-propyl(2S)-1-(3,3,dimethyl-1,2-
     dioxopentyl) -2-pyrrolidinecarboxylate,
 Ü
      3-(4,5-methylenedioxyphenyl)-1-prop-2-(E)-enyl (2S)-1-(3,3-
 M
     dimethyl-1,2-dioxopentyl)-2-pyrrolidinecarboxylate,
 (ŋ
15.0
      3-cyclohexyl-1-propyl (2S)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-
 m
     pyrrolidinecarboxylate,
 3-cyclohexyl-1-prop-2-(E)-enyl (2S)-1-(3,3-dimethyl-1,2-
     dioxopentyl) - 2 - pyrrolidinecarboxylate,
 LIT
       (1R)-1,3-diphenyl-1-propyl (2S)-1-(3,3-dimethyl-1,2-
20
     dioxopentyl) - 2 - pyrrolidinecarboxylate,
      3-phenyl-1-propyl
                            (2S)-1-(1,2-dioxo-2-[2-furanyl])ethyl-2-
     pyrrolidinecarboxylate,
     3-phenyl-1-propyl (2S)-1-(1,2-dioxo-2-[2-thienyl])entyl-2-
     pyrrolidinecarboxylate,
25
      3-phenyl-1-propyl (2S)-1-(1,2-dioxo-2-[2-thiazolyl])ethyl-2-
```

claim 9

wherein the pyrrolidine

The method of

pyrrolidinecarboxylate,

pyrrolidinecarboxylate,

3-phenyl-1-propyl (2S)-1-(1,2-dioxo-2,phenyl)ethyl-2-

```
3-(2,5-dimethoxyphenyl)-1-propyl
                                                                                                                 (2S)-1-(3,3-dimethyl-1,2-
                  dioxopentyl) - 2 - pyrrolidinecarboxylate,
                    3-(2,5-dimethoxyphenyl)-1-prop-2-(E)-enyl(2S)-1-(3,3-dimethyl-
                  1,2-dioxopentyl)-2-pyrrolidinecarboxylate,
                    2-(3,4,5-trimethoxyphenyl)-1-ethyl (2S)-1-(3,3-dimethyl-1,2-
                 dioxopentyl) - 2 - pyrrolidinecarboxylate,
                    3-(3-Pyridyl)-1-propyl(2S)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-
                 pyrrolidinecarboxylate,
                    3-(2-Pyridyl)-1-propyl(2S)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-
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                 pyrrolidinecarboxylate,
                    3-(4-Pyridyl)-1-propyl(2S)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-
                pyrrolidinecarboxylate,
    LJ
                   3-phenyl-1-propyl (2S)-1-(2-cyclohexyl-1,2-dioxoethyl)-2-
    pyrrolidinecarboxylate,
    M
                   3-phenyl-1-propyl (2S)-1-(2-tert-butyl-1,2-dioxoethyl)-2-
    M
                pyrrolidinecarboxylate,
   ATTENDED TO STATE THE STAT
                   3-phenyl-1-propyl (2S)-1-(2-cyclohexylethyl-1,2-dioxoethyl)-2-
                pyrrolidinecarboxylate,
                  3-(3-Pyridyl)-1-propyl
                                                                                              (2S)-1-(2-cyclohexylethyl-1,2-
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               dioxoethyl)-2-pyrrolidinecarboxylate,
                  3-(3-Pyridyl)-1-propyl (2S)-1-(2-tert-butyl-1,2-dioxoethyl)-2-
               pyrrolidinecarboxylate,
                  3,3-diphenyl-1-propyl (2S)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-
               pyrrolidinecarboxylate,
                  3-(3-Pyridyl)-1-propyl (2S)-1-(2-cyclohexyl-1,2-dioxoethyl)-2-
25
               pyrrolidinecarboxylate,
                  3-(3-Pyridyl)-1-propyl
                                                                                              (2S)-N-([2-thienyl]glyoxyl)
               pyrrolidinecarboxylate,
```

- 3,3-Diphenyl-1-propyl (2S)-1-(3,3-dimethyl-1,2-dioxobutyl)-2-pyrrolidinecarboxylate,
- 3,3-Diphenyl-1-propyl (2S)-1-cyclohexylglyoxyl-2-pyrrolidinecarboxylate,
- 3,3-Diphenyl-1-propyl (2S)-1-(2-thienyl)glyoxyl-2pyrrolidinecarboxylate, or pharmaceutically acceptable salts, hydrates, and mixtures thereof.

administering to an animal an effective amount of a nonimmunosuppressive pyrrolidine carboxylate compound.

14. The method of claim 13 wherein the pyrrolidine carboxylate is a compound of the formula:

wherein

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 R_1 is selected from the group consisting of a C_1 - C_9 straight or branched chain alkyl or alkenyl group optionally substituted with C_1 - C_9 cycloalkyl, C_3 or C_5 cycloalkyl, C_5 - C_7 cycloalkenyl, Ar_1 , where said alkyl, alkenyl, cycloalkyl or cycloalkenyl groups may be optionally substituted with C_1 - C_4 alkyl, C_1 - C_4 alkenyl, or hydroxy, where Ar_1 is selected from the group consisting of 1-naphthyl, 2-naphthyl, 2-indolyl, 3-indolyl, 2-furyl, 3-furyl, 2-thiazolyl, 2-thianyl, 3-thianyl, 2-pyridyl, 3-pyridyl, 4-pyridyl, and phenyl,

having one to three substituents which are independently selected from the group consisting of hydrogen, halo, hydroxyl, nitro, trifluoromethyl, C^1 - C_5 straight or branched alkyl or alkenyl, C_1 - C_4 alkoxy or C_1 - C_4 alkenyloxy, phenoxy, benzyloxy, and amino:

X is selected from the group consisting of oxygen, sulphur, methylene $(\mathcal{O}H_2)$, or H_2 ;

is selected from the group consisting of oxygen or NR₂, where R₂ is hydrogen or C^1 -C₅ alkyl; and

z is selected from the group consisting of C_2 - C_6 straight or branched chain alkyl or alkenyl,

wherein the alkyl chain is substituted in one or more positions with Ar_1 as defined above, C_1 - C_8 cycloalkyl, cycloalkyl connected by a C_1 - C_6 straight or unbranched alkyl or alkenyl chain, and Ar_2 is selected from the group consisting of 2-indolyl, 3-indolyl, 2-furyl, 3-furyl, 2-thiazolyl, 2-thienyl, 3-thienyl, 2-pyridyl, 3-pyridyl, 4-pyridyl, and phenyl, having one to three substituents which are independently selected from the group consisting of hydrogen, halo, hydroxyl, nitro, trifluoromethyl, C_1 - C_6 straight or branched alkyl or alkenyl, C_1 - C_4 alkenyloxy, phenoxy, benzyloxy, and amino; Z may also be the fragment:

wherein

 R_3 is a C_1 -C, straight or branched alkyl $\#_1$ -C,

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optionally substituted with C_3 , C_8 cycloalkyl, or Ar_1 as defined above, and unsubstituted Ar_1 ;

 X_2 is 0 or NR_5 , where R_5 is selected from the group consisting of hydrogen, C_1 - C_5 straight or branched alkyl and alkenyl;

is selected from the group consisting of phenyl, benzyl, C_1 - C_5 straight or branched alkyl or alkenyl, and C_1 - C_5 straight or branched alkyl or alkenyl substituted with phenyl; or pharmaceutically acceptable salts or hydrates thereof.

15. The method of claim 13 wherein the pyrrolidine carboxylate is a compound of the formula:

wherein

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is a C_1 - C_9 straight or branched chain alkyl or alkenyl group optionally substituted with C_3 - C_3 cycloalkyl, C_3 or C_5 cycloalkyl, C_5 - C_7 cycloalkenyl, or Ar_1 , where said alkyl, alkenyl, cycloalkyl or cycloalkenyl groups may be optionally substituted with C_1 - C_4 alkyl, C_1 - C_4 alkenyl, or hydroxy, and where Ar_1 is selected from the group consisting of 1-naphthyl, 2-naphthyl, 2-indolyl, 3-indolyl, 2-furyl, 3-furyl, 2-thiazolyl, 2-thienyl, 3-thienyl, 2-pyridyl, 3-pyridyl, 4-pyridyl, or phenyl,

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having to three substituents which independently selected from the group consisting of hydrogen, halo, hydroxyl $/\!\!/$ nitro, trifluoromethyl, C_1 - C_5 straight or branched alkyl or alkenyl, C_1 - C_4 alkoxy or C₁-C₄ alkenyloxy, phenoky, benzyloxy, and amino; is a C_2 - C_6 straight or pranched chain alkyl or alkenyl, wherein the alkyl chain is substituted in one or more positions with Ar, as defined above, C3-C8 cycloalkyl, cycloalkyl connected by a C_1 - C_6 straight or unbranched alkyl or alkenyl chain, or Ar, where Ar, is selected from the group condisting of 2-indoly1, 3-indoly1, 2furyl, 3-furyl, 2-khiazolyl, 2-thienyl, 3-thienyl, 2pyridyl, 3-pyridyl, 4-pyridyl, or phenyl, having one to three substituents which are independently selected from the group cohsisting of hydrogen, halo, hydroxyl, nitro trifluoromethyl, C1-C6 straight or branched alkyl or alkenyl, C_1 - q_4 alkoxy or C_1 - C_4 alkenyloxy, phenoxy, benzyloxy, and amino; or pharmaceutically acceptable salts or hydrates thereof.

The method of claim 13 wherein the pyrrolidine

carboxylate compound is selected from the group consisting of: 3-phenyl-1-propyl (2S) -1-(3,3-dimethyl-1,2-dioxopentyl)-2-

pyrrolidinecarboxylate,

3-phenyl-1-prop-2-(**£**)-enyl

(2S)-1-(3,3,-dimethyl-1,2-

dioxopentyl) - 2 - pyrrolidinecarboxylate,

one

3-(3,4,5-trimethoxyphenyl)-1-propyl (2S)-1-(3,3-dimethyl-1,2dioxopentyl) -2-pyrrol/idinecarboxylate,

3-(3,4,5-trimethox/phenyl)-1-prop-2-(E)-enyl (2S) - 1 - (3, 3 -

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dimethyl-1,2-dioxopentyl)-2-pyrrol/dinecarboxylate,
       3-(4,5-methylenedioxyphenyl)-1-p#opyl(2S)-1-(3,3,dimethyl-1,2-
      dioxopentyl) - 2 - pyrrolidinecarboxy/late,
       3-(4,5-methylenedioxyphenyl)-1-prop-2-(E)-enyl
                                                           (2S)-1-(3,3-
      dimethyl-1,2-dioxopentyl)-2-pyrfolidinecarboxylate,
       3-cyclohexyl-1-propyl (2S)-1-\sqrt{3},3-dimethyl-1,2-dioxopentyl)-2-
      pyrrolidinecarboxylate,
       3-cyclohexyl-1-prop-2-(E)-∉nyl
                                             (2S) - 1 - (3, 3 - dimethyl - 1, 2 -
      dioxopentyl)-2-pyrrolidinec#rboxylate,
       (1R) - 1, 3 - diphenyl - 1 - pr \phi pyl (2S) - 1 - (3, 3 - dimethyl - 1, 2 -
      dioxopentyl) - 2 - pyrrolidin / carboxylate,
       3-phenyl-1-propyl
                              (25)-1-(1,2-dioxo-2-[2-furanyl])ethyl-2-
 ü
      pyrrolidinecarboxylate,
 M
       3-phenyl-1-propyl
                               [2S] -1-(1,2-dioxo-2-[2-thienyl])entyl-2-
 Ü
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      pyrrolidinecarboxylate
 űt
       3-phenyl-1-propyl
                           (2S) - 1 - (1, 2 - dioxo - 2 - [2 - thiazolyl]) = thyl - 2 - (2 - thiazolyl)
      pyrrolidinecarboxylat/e,
 M
       3-phenyl-1-propyl / (2S)-1-(1,2-dioxo-2,phenyl)ethyl-2-
      pyrrolidinecarboxyldte,
20
       3-(2,5-dimethoxyphenyl)-1-propyl (2S)-1-(3,3-dimethyl-1,2-
      dioxopentyl) -2-pyrfolidinecarboxylate,
       3-(2,5-dimethoxymhenyl)-1-prop-2-(E)-enyl(2S)-1-(3,3-dimethyl-
      1,2-dioxopentyl)-/2-pyrrolidinecarboxylate,
      -2-(3,4,5-trimethoxyphenyl)-1-ethyl (2S)-1-(3,3-dimethyl-1,2-
25
      dioxopentyl) - 2 - pyrrolidinecarboxylate,
       3-(3-\text{Pyridyl}) f1-propyl(2S)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-
      pyrrolidineca#boxylate,
      3-(2-Pyridy!)-1-propyl(2S)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-
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pyrrolidinecarboxylate,
       3-(4-Pyridyl)-1-propyl(2S)-1-(3,3/dimethyl-1,2-dioxopentyl)-2-
      pyrrolidinecarboxylate,
       3-phenyl-1-propyl (2S)-1-(2/cyclohexyl-1, 2-dioxoethyl)-2-
      pyrrolidinecarboxylate,
       3-phenyl-1-propyl (2S)-1-/2-tert-butyl-1,2-dioxoethyl)-2-
      pyrrolidinecarboxylate,
       3-phenyl-1-propyl (2S)-1-(2/cyclohexylethyl-1,2-dioxoethyl)-2-
      pyrrolidinecarboxylate,
       3-(3-Pyridyl)-1-propyl /
                                   (2S)-1-(2-cyclohexylethyl-1,2-
      dioxoethyl)-2-pyrrolidinefarboxylate,
       3-(3-Pyridyl)-1-propyl \sqrt{2}S)-1-(2-tert-butyl-1,2-dioxoethyl)-2-
      pyrrolidinecarboxylate,
       3,3-diphenyl-1-propyl (3,3-dimethyl-1,2-dioxopentyl)-2-
15]
      pyrrolidinecarboxylate
       3-(3-\text{Pyridyl})-1-\text{prop}1 (2S)-1-(2-cyclohexyl-1,2-dioxoethyl)-2-
 13
      pyrrolidinecarboxylate,
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 ij.
       3-(3-Pyridyl)-1-propyl
 m
                                    (2S)-N-([2-thienyl]glyoxyl)
      pyrrolidinecarboxylate,
20
      3,3-Diphenyl-1-propyl (2S)-1-(3,3-dimethyl-1,2-dioxobutyl)-2-
 IJ1
      pyrrolidinecarboxy !ate,
       3,3-Diphenyl-1/-propyl
                                   (2S)-1-cyclohexylglyoxyl-2-
     pyrrolidinecarbox plate,
       3,3-Diphenyl-1-propyl (2S)-1-(2-thienyl)glyoxyl-2-
25
     pyrrolidinecarboxylate, and pharmaceutically acceptable salts,
     hydrates, and maxtures thereof.
               A method of treatind hair loss which comprises:
      dministering to an animal (af
                                       effective amount
```

immunosuppressive pyrrolidine garboxylate compound.

13. The method of claim 7 wherein the pyrrolidine carboxylate is a compound of the formula:

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I.

5 wherein

 R_1 is selected from the group consisting of a C_1 - C_9 straight or branched chain alkyl or alkenyl group optionally substituted with C_3 - C_8 cycloalkyl, C_1 or C_9 cycloalkyl, C_9 - C_7 cycloalkenyl, Ar_1 , where said alkyl, alkenyl, cycloalkyl or cycloalkenyl groups may be optionally substituted with C_1 - C_4 alkyl, C_1 - C_4 alkenyl, or hydroxy, where Ar_1 is selected from the group consisting of 1-naphthyl, 2-naphthyl, 2-indolyl, 3-indolyl, 2-furyl, 3-furyl, 2-thiazolyl, 2-thianyl, 3-thianyl, 2-pyridyl, 3-pyridyl, 4-pyridyl, and phenyl, having one to three substituents which are independently selected from the group consisting of hydrogen, halo, hydroxyl, nitro, trifluoromethyl, C_1 - C_6 straight or branched alkyl or alkenyl, C_1 - C_4 alkoxy or C_1 - C_4 alkenyloxy, phenoxy, benzyloxy, and amino:

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X is selected from the group consisting of oxygen, sulphur, methylene (CH_2) , or H_2 ;

is selected from the group consisting of oxygen or NR_2 , where R_2 is hydrogen or C^1 - C_6 alkyl; and

Z . is selected from the group consisting of C_2 - C_6 straight or branched chain alkyl or klkenyl,

wherein the alkyl chain is substituted in one or more positions with Ar_1 as defined above, C_3 - C_8 cycloalkyl, cycloalkyl connected by a C_1 - C_6 straight or unbranched alkyl or alkenyl chain, and Ar_2 is selected from the group consisting of 2-indolyl, 3-indolyl, 2-furyl, 3-furyl, 2-thiazolyl, 2-thianyl, 3-thianyl, 2-pyridyl, 3-pyridyl, 4-pyridyl, and phenyl, having one to three substituents which are independently selected from the group consisting of hydrogen, halo, hydroxyl, nitro, trifluoromethyl, C_1 - C_6 straight or branched alkyl or alkenyl, C_1 - C_4 alkenyloxy, phenoxy, benzyloxy, and amino; Z may also be the fragment:

 $-CH \xrightarrow{\bigcirc} X_2 - R_4$

wherein

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 R_3 is a C_1 - C_9 straight or branched alkyl $\#_1$ - C_8 optionally substituted with C_3 - C_8 cycloalkyl, or Ar_1 as defined above, and unsubstituted Ar_1 ;

 X_2 is 0 or NR_5 , where R_5 is selected from the group consisting of hydrogen, $C_1\text{-}C_6$ straight or branched alkyl and alkenyl;

is selected from the group consisting of phenyl, benzyl, C_1 - G_5 straight or branched alkyl or alkenyl, and C_1 - G_5 straight or branched alkyl or alkenyl substituted with phenyl; or pharmaceutically

acceptable salts or hydrates thereof.

19. The method of claim 17 wherein the pyrrolidine carboxylate is a compound of the formula:

wherein

 R_1

is a C_1 - C_9 straight or branched chain alkyl or alkenyl group optionally sub ξ tituted with C_3 - C_8 cycloalkyl, C_3 or C_5 cycloalkyl, C_5 - C_7 cycloalkenyl, or Ar_1 , where said alkyl, alkenyl, cycloalkyl or cycloalkenyl groups may be optionally substituted with C_1-C_4 alkyl, C_1-C_4 alkenyl, or hydroxy, and where Ar, is selected from the group consisting ϕ f 1-naphthyl, 2-naphthyl, 2-indolyl, 3-indolyl, 2-furyl, 3-furyl, 2-thiazolyl, 2-thienyl, 3-thienyl, 2-pyridyl, 3-pyridyl, 4-pyridyl, or phenyl, having one three substituents which independently selected from the group consisting of hydrogen, halo hydroxyl, nitro, trifluoromethyl, C_1 - C_6 straight or b_{1} anched alkyl or alkenyl, C_{1} - C_{4} alkoxy or C_1 - C_4 alkenyl ϕ xy, phenoxy, benzyloxy, and amino;

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is a C_2 - C_6 straight or branched chain alkyl or alkenyl, wherein the alkyl chain is substituted in one or more positions with Ar_1 as defined above, C_3 - C_8 cycloalkyl, cycloalkyl connected by a C_1 - C_6 straight or unbranched

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alkyl or alkenyl chain, or Ar_2 where Ar_2 is selected from the group consisting of 2-indolyl, 3-indolyl, 2-furyl, 3-furyl, 2-thiazolyl, 2-thienyl, 3-thienyl, 2-pyridyl, 3-pyridyl 4-pyridyl, or phenyl, having one to three substituents which are independently selected from the group consisting of hydrogen, halo, hydroxyl, nitro trifluoromethyl, C_1 - C_6 straight or branched alkyl or alkenyl, C_1 - C_4 alkoxy or C_1 - C_4 alkenyloxy, phenoxy, benzyloxy, and amino; or pharmaceutically acceptable salts or hydrates thereof.

20. The method of claim 17 wherein the pyrrolidine carboxylate compound is selected from the group consisting of:

3-phenyl-1-propyl (2S)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-pyrrolidinecarboxylate.

3-phenyl-1-prop-2-(E)-enyl (2S)-1-(3,3,-dimethyl-1,2-dioxopentyl)-2-pyrrolidinecarboxylate,

3-(3,4,5-trimethoxyphenyl)-1-propyl (2S)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-pyrrolidinecarboxylate,

3-(3,4,5-trimethoxyphenyl)-l-prop-2-(E)-enyl (2S)-l-(3,3-dimethyl-1,2-dioxopentyl)-2-pyrrolidinecarboxylate,

3-(4,5-methylenedioxyphenyl)-1-propyl(2S)-1-(3,3,dimethyl-1,2-dioxopentyl)-2-pyrrolidinecarboxylate,

3-(4,5-methylenedioxyphenyl)-1-prop-2-(E)-enyl (2S)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-pyrrolidinecarboxylate,

3-cyclohexyl-1-propyl (2S)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-pyrrolidinecarboxylate,

3-cyclohexyl-1-prop-2-(E)-enyl (2S)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-pyrrolidinecarboxylate,

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(1R)-1,3-diphenyl-1-propyl (2S)-1-(3,3-dimethyl-1,2-
      dioxopentyl) - 2 - pyrrolidinecarboxylate,
       3-phenyl-1-propyl
                            (2S) -1-(1,2-dioxo-2-[2-furanyl]) ethyl-2-
      pyrrolidinecarboxylate,
       3-phenyl-1-propyl
 5
                             (2S) -1-(1,2-dioxo-2-[2-thienyl])entyl-2-
      pyrrolidinecarboxylate,
       3-phenyl-1-propyl (2S)-1-(1,2-dioxo-2-[2-thiazolyl])ethyl-2-
      pyrrolidinecarboxylate,
       3-phenyl-1-propyl
                              (2S)-1-(1,2-dioxo-2,phenyl)ethyl-2-
      pyrrolidinecarboxylate,
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       3-(2,5-dimethoxyphenyl)-1-propyl (2S)-1-(3,3-dimethyl-1,2-
     dioxopentyl) - 2 - pyrrolidinecarboxylate,
       3-(2,5-dimethoxyphenyl)-1-prop-2-(E)-enyl(2S)-1-(3,3-dimethyl-
      1,2-dioxopentyl)-2-pyrrolidinecarboxylate,
      2-(3,4,5-trimethoxyphenyl)-1-ethyl (2S)-1-(3,3-dimethyl-1,2-
     dioxopentyl) - 2 - pyrrolidinecarboxylate,
      3-(3-Pyridyl)-1-propyl(2S)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-
     pyrrolidinecarboxylate,
       3-(2-Pyridyl)-1-propyl(2S)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-
     pyrrolidinecarboxylate,
       3-(4-Pyridyl)-1-propyl(2S)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-
     pyrrolidinecarboxylate,
       3-phenyl-1-propyl (2S)-1-(2-cyclohexyl-1,2-dioxoethyl)-2-
     pyrrolidinecarboxylate,
     3-phenyl-1-propyl (2S)-1-(2-tert-butyl-1,2-dioxoethyl)-2-
25
     pyrrolidinecarboxylate,
       3-phenyl-1-propyl (2S)-1-(2-cyclohexylethyl-1,2-dioxoethyl)-2-
     pyrrolidinecarboxylate,
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3-(3-Pyridyl)-1-propyl (2S)-1-(2-cyclohexylethyl-1,2-dioxoethyl)-2-pyrrolidinecarboxylate,
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- 3-(3-Pyridyl)-1-propyl (2S)-1-(2-tert-butyl-1,2-dioxoethyl)-2-pyrrolidinecarboxylate,
- 5 3,3-diphenyl-1-propyl (2S)-1-(3,3-dimethyl-1,2-dioxopentyl)-2pyrrolidinecarboxylate,
 - 3-(3-Pyridyl)-1-propyl (2S)-1-(2-cyclohexyl-1,2-dioxoethyl)-2-pyrrolidinecarboxylate,
 - 3-(3-Pyridyl)-1-propyl (2S)-N-([2-thienyl]glyoxyl) pyrrolidinecarboxylate,
 - 3,3-Diphenyl-1-propyl (2S)-1-(3,3-dimethyl-1,2-dioxobutyl)-2-pyrrolidinecarboxylate,
 - 3,3-Diphenyl-1-propyl (2S)-1-cyclohexylglyoxyl-2-pyrrolidinecarboxylate,
 - 3,3-Diphenyl-1-propyl (2S)-1-(2-thienyl)glyoxyl-2-pyrrolidinecarboxylate, and pharmaceutically acceptable salts, hydrates, and mixtures thereof.
 - 21. A method of treating hair loss associated with cancer therapy, wherein the cancer therapy is selected from the group consisting of radiation and chemotherapy, wherein said method comprises: administering to an animal an effective amount of a non-immunosuppressive pyrrolidine carboxylate compound.

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22. The method of claim 21 wherein the pyrrolidine carboxylate is a compound of the formula:

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Y—Z
R

wherein

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 R_1 is selected from the group consisting of a C_1 - C_5 straight or branched chain alkyl or alkenyl group optionally substituted with C_3 - C_5 cycloalkyl, C_5 or C_5 cycloalkyl, C_5 - C_7 cycloalkenyl, Ar_1 , where said alkyl, alkenyl, cycloalkyl or cycloalkenyl groups may be optionally substituted with C_1 - C_4 alkyl, C_1 - C_4 alkenyl, or hydroxy, where Ar_1 is selected from the group consisting of 1-naphthyl, 2-naphthyl, 2-indolyl, 3-indolyl, 2-furyl, 3-furyl, 2-thiazolyl, 2-thianyl, 3-thianyl, 2-pyridyl, 4-pyridyl, and phenyl, having one to three substituents which are independently selected from the group consisting of hydrogen, halo, hydroxyl, nitro, trifluoromethyl, C^1 - C_6 straight or branched alkyl or alkenyl, C_1 - C_4 alkoxy or C_1 - C_4 alkenyloxy, phenoxy, benzyloxy, and amino:

- X is selected from the group consisting of oxygen, sulphur, methylene (CH_2) , or H_2 ;
- Y is selected from the group consisting of oxygen or NR_2 , where R_2 is hydrogen or C^1 - C_6 alkyl; and
- Z is selected from the group consisting of C_2 - C_6 straight

or branched chain alkyl or alkenyl,

wherein the alkyl chain is substituted in one or more positions with Ar_1 as defined above, C_1 - C_8 cycloalkyl, cycloalkyl connected by a C_1 - C_6 straight or unbranched alkyl or alkenyl chain, and Ar_2 is selected from the group consisting of 2-indolyl, 3-indolyl, 2-furyl, 3-furyl, 2-thiazolyl, 2-thianyl, 3-thianyl, 2-pyridyl, 3-pyridyl, 4-pyridyl, and phenyl, having one to three substituents which are independently selected from the group consisting of hydrogen, halo, hydroxyl, nitro, trifluoromethyl, C_1 - C_6 straight or branched alkyl or alkenyl, C_1 - C_4 alkenyloxy, phenoxy, benzyloxy, and amino; Z may also be the fragment:

wherein

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 R_3 is a C_1 - C_9 straight or branched alkyl $\#_1$ - C_8 optionally substituted with C_3 - C_8 cycloalkyl, or Ar_1 as defined above, and unsubstituted Ar_1 ;

 X_2 is 0 or NR_5 , where R_5 is selected from the group consisting of hydrogen, $C_1\text{-}C_6$ straight or branched alkyl and alkenv1;

is selected from the group consisting of phenyl, benzyl, C_1 - C_5 straight or branched alkyl or alkenyl, and C_1 - C_5 straight or branched alkyl or alkenyl substituted with phenyl; or pharmaceutically acceptable salts or hydrates thereof.

23. The method of claim 21 wherein the pyrrolidine carboxylate is a compound of the formula:

wherein

5 R₁

is a C_1 - C_9 straight or branched chain alkyl or alkenyl group optionally substituted with C3-Cg cycloalkyl, C3 or C₅ cycloalkyl, C₆-C₇ cycloalkenyl, or Ar₁, where said alkyl, alkenyl, cycloalkyl or cycloalkenyl groups may be optionally substituted with C_1-C_4 alkyl, C_1-C_4 alkenyl, or hydroxy, and where Ar_1 is selected from the group consisting of 1-naphthyl, 2-naphthyl, 2-indolyl, 3-indolyl, 2-furyl, 3-furyl, 2-thiazolyl, 2-thienyl, 3-thienyl, 2-pyridyl, 3-pyridyl, 4-pyridyl, or phenyl, having one to three substituents which independently selected from the group consisting of hydrogen, halo hydroxyl, nitro, trifluoromethyl, C1-C6 straight or byanched alkyl or alkenyl, C1-C4 alkoxy or C₁-C₄ alkenyloxy, phenoxy, benzyloxy, and amino;

is a C_2 - C_6 straight or branched chain alkyl or alkenyl, wherein the alkyl chain is substituted in one or more positions with Ar_1 as defined above, C_1 - C_8 cycloalkyl, cycloalkyl connected by a C_1 - C_6 straight or unbranched alkyl or alkenyl chain, or Ar_2 where Ar_2 is selected

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from the group considering of 2-indolyl, 3-indolyl, 2furyl, 3-furyl, 2-thiazolyl, 2-thienyl, 3-thienyl, 2pyridyl, 3-pyridyl, /4-pyridyl, or phenyl, having one to three substituent/s which are independently selected from the group cons $m{i}$ sting of hydrogen, halo, hydroxyl, nitro trifluoromet/yl, C_1 - C_6 straight or branched alkyl or alkenyl, C_1 - C_4 alkenyloxy, phenoxy, benzyloxy, and amino; or pharmaceutically acceptable salts or hydrates thereof.

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M ()) 15)

(M

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C.

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10 The method of / claim 21 wherein the pyrrolidine carboxylate compound is selected from the group consisting of:

3-phenyl-1-propyl . (2S)-1-(3,3-dimethyl-1,2-dioxopentyl)-2pyrrolidinecarboxylate,

3-phenyl-1-prop-2-(E/-enyl (2S)-1-(3,3,-dimethyl-1,2dioxopentyl) - 2 - pyrrolidinecarboxylate,

3-(3,4,5-trimethoxyphenyl)-1-propyl (2S)-1-(3,3-dimethyl-1,2dioxopentyl)-2-pyrroli**d**inecarboxylate,

3-(3,4,5-trimethoxyphenyl)-1-prop-2-(E)-enyl (2S)-1-(3,3dimethyl-1,2-dioxopentyl)-2-pyrrolidinecarboxylate,

3-(4,5-methylenedioxyphenyl)-1-propyl(2S)-1-(3,3,dimethyl-1,2dioxopentyl) - 2 - pyrrolidinecarboxylate,

3-(4,5-methylenedidxyphenyl)-1-prop-2-(E)-enyl (2S)-1-(3,3dimethyl-1,2-dioxopentyl)-2-pyrrolidinecarboxylate,

3-cyclohexyl-1-prdpyl (2S)-1-(3,3-dimethyl-1,2-dioxopentyl)-2pyrrolidinecarboxylate,

3-cyclohexyl-1-prop-2-(E)-enyl (2S)-1-(3,3-dimethyl-1,2dioxopentyl) - 2 - py rolidinecarboxylate,

(1R)-1,3-diphehyl-1-propyl(2S)-1-(3,3-dimethyl-1,2-

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dioxopentyl) - 2 - pyrrolidinecarboxylate,
       3-phenyl-1-propyl
                             (2S)-1-(1 2-dioxo-2-[2-furanyl])ethyl-2-
      pyrrolidinecarboxylate,
       -3-phenyl-1-propyl
                          (2S)-1-(♠,2-dioxo-2-[2-thienyl])entyl-2-
      pyrrolidinecarboxylate,
       3-phenyl-1-propyl (2S)-1-(\frac{1}{4}, 2-dioxo-2-[2-thiazolyl])ethyl-2-
      pyrrolidinecarboxylate,
       3-phenyl-1-propyl
                              (2s)/-1-(1,2-dioxo-2,phenyl)ethyl-2-
      pyrrolidinecarboxylate,
       3-(2,5-dimethoxyphenyl)-1-propyl (2S)-1-(3,3-dimethyl-1,2-
      dioxopentyl)-2-pyrrolidinedarboxylate,
       3-(2,5-dimethoxyphenyl)-1/prop-2-(E)-enyl(2S)-1-(3,3-dimethyl-
      1,2-dioxopentyl)-2-pyrrolidinecarboxylate,
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TU
       2-(3,4,5-trimethoxypheny)-1-ethyl (2S)-1-(3,3-dimethyl-1,2-
     dioxopentyl) - 2 - pyrrolidin ecarboxylate,
 M
       3-(3-Pyridyl)-1-propyl(2S)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-
 pyrrolidinecarboxylate,
      3-(2-Pyridyl)-1-propyl(2S)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-
     pyrrolidinecarboxylate,
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      3-(4-Pyridyl)-1-propyl(2S)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-
     pyrrolidinecarboxylate
      3-phenyl-1-propyl
                           (2S)-1-(2-cyclohexyl-1,2-dioxoethyl)-2-
     pyrrolidinecarboxylat#
      3-phenyl-1-propyl
                           (2S)-1-(2-tert-butyl-1,2-dioxoethyl)-2-
     pyrrolidinecarboxylate,
      3-phenyl-1-propyl (pS)-1-(2-cyclohexylethyl-1,2-dioxoethyl)-2-
     pyrrolidinecarboxylate,
      3-(3-Pyridyl)-1/propyl
                                   (2S)-1-(2-cyclohexylethyl-1,2-
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dioxoethyl) - 2 - py prolidinecarb pxylate,
 3-(3-Pyridyl)-1-propyl (2S) \sqrt{1-(2-tert-butyl-1,2-dioxoethyl)-2-tert-butyl-1}
pyrrolidinecarboxylate,
 3,3-diphenyl-1-propyl (2S)/-1-(3,3-dimethyl-1,2-dioxopentyl)-2-
pyrrolidinecarboxylate,
 3-(3-2\text{yridyl})-1-\text{propyl} (2s)-1-(2-cyclohexyl-1,2-dioxoethyl)-2-
 3-(3-Pyridyl)-1-prdpyl
                                 (2S) -N-([2-thienyl]glyoxyl)
pyrrolidinecarboxylate
 3,3-Diphenyl-1-propy/1 (2S)-1-(3,3-dimethyl-1,2-dioxobutyl)-2-
pyrrolidinecarboxyla/te,
 3,3-Diphenyl-1-/propyl
                                (2S) -1-cyclohexylglyoxyl-2-
pyrrolidinecarboxy/Late,
 3,3-Diphenyl-1/-propyl
                               (2S)-1-(2-thienyl)glyoxyl-2-
pyrrolidinecarb xylate, and pharmaceutically acceptable salts,
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hydrates, and dixtures thereof.